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United States  
Department of  
Agriculture

Soil  
Conservation  
Service

Reno  
Nevada



# Nevada Water Supply Outlook

May 1, 1988

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# Foreword

## How Forecasts Are Made

Most of the annual streamflow in the Western United States originates as snowfall. This snowfall accumulates high in the mountains during winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Predictions are based on careful measurements of snow water equivalent at selected index points. Precipitation, temperature, soil moisture and antecedent streamflow data are viewed in conjunction with snowpack data to prepare runoff forecasts. This report presents a comprehensive picture of water supply outlook conditions for areas dependent upon surface runoff. It includes selected streamflow forecasts, summarized snowpack and precipitation data, reservoir storage data and narratives describing current conditions.

Streamflow forecasts are cooperatively generated by Soil Conservation Service and National Weather Service hydrologists. Forecasts become more accurate as more data affecting runoff becomes known. For this reason, forecasts are issued that reflect three future precipitation conditions — Below Normal, Average, and Above Normal. These forecasts are terms reasonable minimum, most probable, and reasonable maximum. Actual streamflow can be expected to fall between the lower and upper forecast values eight out of ten years.

Snowpack data are obtained by using a combination of manual and automated measurement methods. Manual readings of snow depth and water equivalent are taken at locations called snow courses on a monthly or semi-monthly schedule during the winter. In addition, snow water equivalent, precipitation, temperature, and other parameters are monitored on a daily basis and transmitted via radio telemetry to central data collection facilities. Both monthly and daily data are used to project snowmelt runoff.

## For More Information

Copies of Monthly Water Supply Outlook Reports and other reports may be obtained from the states listed below. An annual snow survey data summary is published by the Soil Conservation Service for each of the western states. Historical snow survey data may be obtained at those same offices.

| STATE      | ADDRESS   |
|------------|---|
| Alaska     | 201 East 9th Ave., Suite 300, Anchorage, AK 99501-3687                  |
| Arizona    | 201 East Indianola, Suite 200, Phoenix, AZ 85012                        |
| Colorado   | 2490 West 26th Ave., Denver, CO 80211                                   |
| New Mexico | 517 Gold Ave. S.W., Room 3301, Albuquerque, NM 87102-3157               |
| Idaho      | 304 North 8th Street, Room 345, Boise, ID 83702                         |
| Montana    | 10 East Babcock, Room 443, Federal Building, Bozeman, MT 59715          |
| Nevada     | 1201 Terminal Way, Room 219, Reno, NV 89502                             |
| Oregon     | 1220 Southwest 3rd Ave., Room 1640, Portland, OR 97204                  |
| Utah       | 4402 Federal Building, 125 South State Street, Salt Lake City, UT 84147 |
| Washington | 360 U.S. Court House, Spokane, WA 99201-1080                            |
| Wyoming    | Federal Building, 100 East "B" Street, Casper, WY 82601                 |

In addition to state reports, a Water Supply Outlook for the Western United States is published by the Soil Conservation Service and National Weather Service monthly, January through May. Reports may be obtained from the Soil Conservation Service, West National Technical Center, 511 Northwest Broadway, Room 248, Portland, OR 97209.

Published by other agencies:

Water Supply Outlook Reports prepared by other agencies include: California — Snow Survey Branch, California Department of Water Resources, P.O. Box 388, Sacramento, CA 95802; British Columbia — The Ministry of Environment, Water Investigations Branch, Parliament Buildings, Victoria, British Columbia, V8V 1X5; Yukon Territory — Department of Indian and Northern Affairs, Northern Operations Branch, 200 Range Road, Whitehorse, Yukon Territory, Y1A 3V1; Alberta, Environment Technical Services Division, 9820 106th St., Edmonton, Alberta T5K 2J6.



# **Nevada Water Supply Outlook**

and

## **Federal - State - Private Cooperative Snow Surveys**

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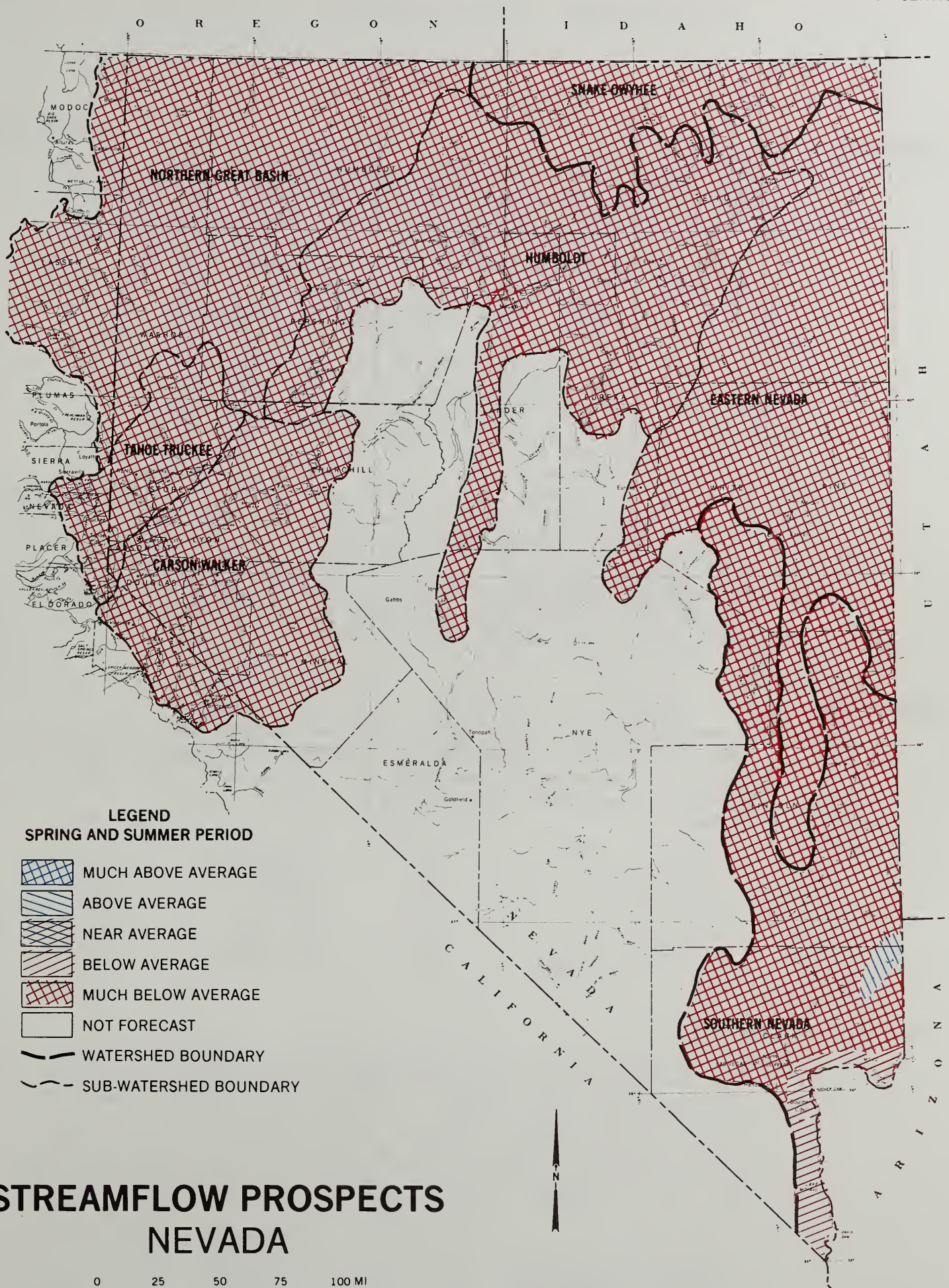
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## GENERAL OUTLOOK

### SUMMARY

ALTHOUGH NEVADA RECIEVED MORE PRECIPITATION THAN IT HAD IN THE LAST TWO MONTHS, SNOWPACKS CONTINUED TO DIMINISH, WITH MOST OF THE LOWER ELEVATION SITES LOSING THEIR SNOW COMPLETELY. ALL THE BASINS EXCEPT THE SNAKE AND EASTERN NEVADA BASINS ARE BELOW 70% OF AVERAGE. THE WESTERN PORTION OF THE STATE CONTINUES TO BE THE WORST HIT, WITH SNOWPACKS RANGING FROM 5 TO 21 PERCENT OF NORMAL. APRIL PRECIPITATION RANGED FROM WELL BELOW AVERAGE IN THE WESTERN PORTION OF THE STATE TO WELL ABOVE AVERAGE IN THE NORTHWESTERN, EASTERN AND SOUTHERN PARTS OF NEVADA. TOTAL PRECIPITATION SINCE OCTOBER 1 CONTINUES TO BE WELL BELOW TO BELOW AVERAGE OVER ALL THE STATE, EXCEPT SOUTHERN NEVADA WHICH IS WELL ABOVE AVERAGE. RESERVOIR STORAGE ON THE LAST DAY OF APRIL CONTINUED TO BE WELL BELOW AVERAGE FOR MOST OF THE STATE, EXCEPT AT WILDHORSE RESERVOIR AND AT BOTH RESERVOIRS IN SOUTHERN NEVADA. STREAMFLOW FORECASTS INDICATE WELL BELOW AVERAGE FLOWS FOR MOST OF THE STATE. ONLY THE VIRGIN RIVER AND THE LAKE POWELL INFLOW ARE EXPECTED TO BE ABOVE 70% OF NORMAL.

### SNOWPACK

Snowpack conditions continued to worsen over all the basins in the state except the Northern Great Basin and the Eastern Nevada Basin. There are very few sites below 8500 feet elevation with snow.

| BASIN               | % OF AVG. | BASIN         | % OF AVG. |
|---------------------|-----------|---------------|-----------|
| TAHOE.....          | 5%        | HUMBOLDT..... | 40%       |
| TRUCKEE.....        | 19%       | SNAKE.....    | 74%       |
| CARSON.....         | 16%       | OWYHEE.....   | 31%       |
| WALKER.....         | 21%       | EASTERN.....  | 63%       |
| N. GREAT BASIN..... | 38%       | SOUTHERN..... | %         |

### PRECIPITATION

April precipitation, although better than the last two months, was below average to well below average over most of the state. The Northern Great Basin and the Southern Nevada Basin both reported well above normal precipitation during the month. Year-to-date precipitation remains well below to below average for the state except in the Southern Nevada Basin.

| BASIN(S)        | 5/1 : YTD<br>% OF AVG. | BASIN(S) | 5/1 : YTD<br>% OF AVG. |
|-----------------|------------------------|----------|------------------------|
| TAHOE & TRUCKEE | 55 : 44                | HUMBOLDT | 83 : 77                |
| CARSON & WALKER | 67 : 54                | EASTERN  | 101 : 88               |
| N. GREAT BASIN  | 159 : 70               | SOUTHERN | 369 : 145              |
| SNAKE & OWYHEE  | 88 : 72                |          |                        |



## RESERVOIRS

Reservoir storage continues to be below average to well below average for most of the reservoirs in the state. Wildhorse Reservoir was slightly below average and both reservoirs in southern Nevada were above normal.

| BASIN(S)                    | % CAPACITY | % OF AVERAGE |
|-----------------------------|------------|--------------|
| TAHOE & TRUCKEE.....        | 29%        | 48%          |
| CARSON & WALKER.....        | 53%        | 69%          |
| HUMBOLDT.....               | 41%        | 62%          |
| SNAKE & OWYHEE.....         | 45%        | 93%          |
| SOUTHERN NEVADA.....        | 93%        | 124%         |
| SEVEN MAJOR RESERVOIRS..... | 37%        | 56%          |

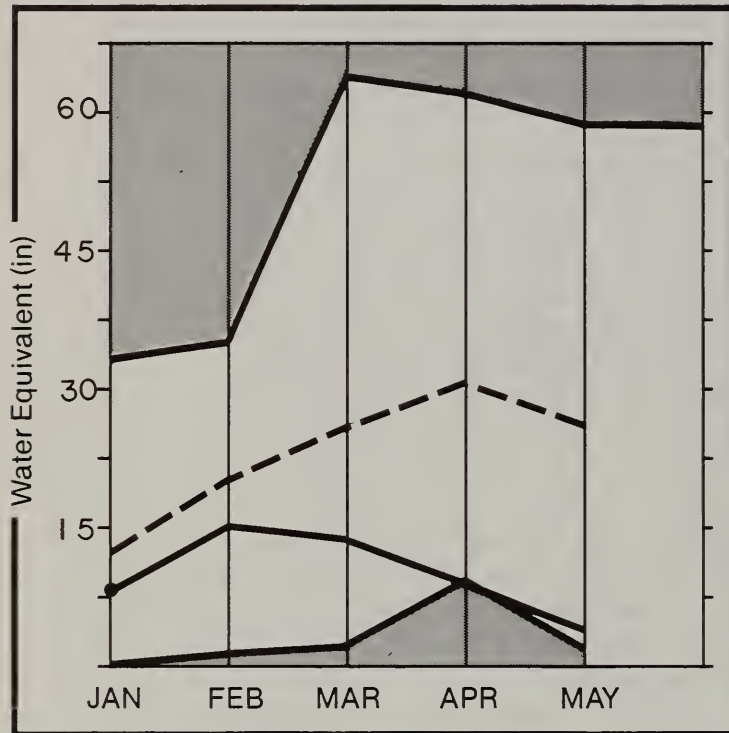
## STREAMFLOW

Except for the Virgin River and the Lake Powell Inflow, streamflows throughout the state are forecast below the 70% level. In the western and northwestern portion of the state, forecasted streams are expected to flow below 35% of average.

| BASIN(S)        | % OF AVG. | BASIN(S) | % OF AVG. |
|-----------------|-----------|----------|-----------|
| TAHOE & TRUCKEE | 12%-33%   | HUMBOLDT | 5%-64%    |
| CARSON & WALKER | 5%-26%    | EASTERN  | 44%-62%   |
| N. GREAT BASIN  | 19%-24%   | SOUTHERN | 78%-113%  |
| SNAKE & OWYHEE  | 44%-62%   |          |           |

## TAHOE & TRUCKEE BASINS

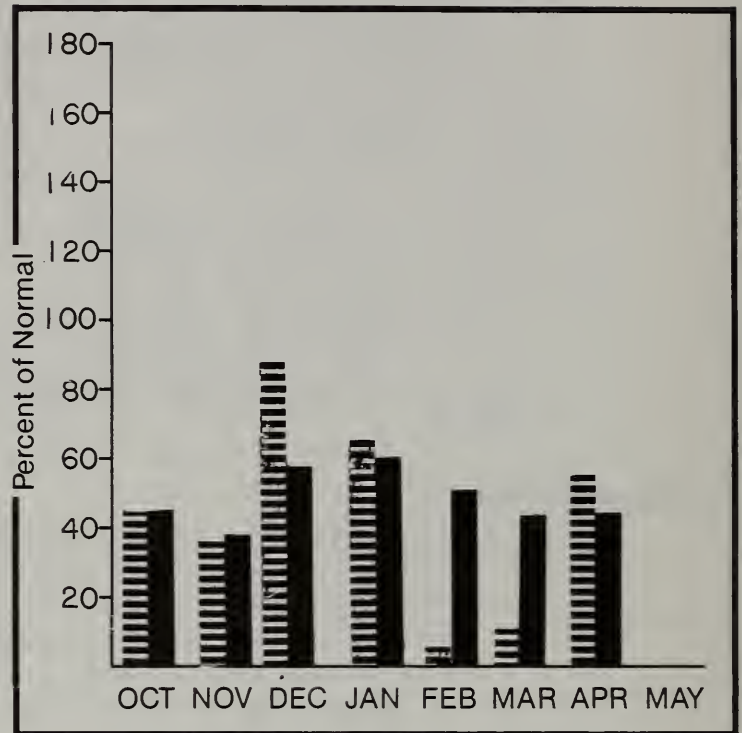
**Mountain snowpack\*** (inches)



\*Based on selected stations

Maximum Average   
 Minimum Current

**Precipitation\*** (percent of normal)



\*Based on selected stations

Monthly precipitation Year to date precipitation

### TAHOE & TRUCKEE BASINS

Snowpack conditions on May 1 remain well below average. The Lake Tahoe Basin has about 5% of the May 1 average and 176% of the water content present last year at this time. The Truckee River Basin currently has 19% of average and 118% of last year. April precipitation for the Tahoe-Truckee Basin was 55% of average and 202% of last year. Precipitation since October 1, 1987 is 44% of average and 106% of last year's total precipitation figures at this time. Reservoir storage is 48% of average. Total storage for Boca, Lake Tahoe, Prosser and Stampede is 302,790 acre feet. The rise in Lake Tahoe from April - High is expected to be 0.1 foot. Streamflow forecasts indicate well below average flows for the forecast period. The Truckee River at Farad is expected to flow at 19% of normal or 40,000 acre feet during the May - July period.

For more information contact your local Soil Conservation Service office.

# TAHOE & TRUCKEE BASINS

## STREAMFLOW FORECASTS

| FORECAST POINT                        | FORECAST PERIOD | 25 YR. AVG. (1000AF) | MOST PROBABLE (1000AF) | MOST PROBABLE (% AVG.) | REAS. MAX. (1000AF) | REAS. MAX. (% AVG.) | REAS. MIN. (1000AF) | REAS. MIN. (% AVG.) |
|---------------------------------------|-----------------|----------------------|------------------------|------------------------|---------------------|---------------------|---------------------|---------------------|
| LAKE TAHOE RISE (assume gates closed) | APR-HIG         | 1.5                  | 0.1                    | 7                      | 1.0                 | 68                  | 0.0                 | 0                   |
| TRUCKEE RIVER at Farad 2              | APR-JUL         | 284.7                | 60.0                   | 21                     | 100.0               | 35                  | 28.0                | 10                  |
|                                       | MAY-JUL         | 215.0                | 40.0                   | 19                     | 85.0                | 40                  | 17.0                | 8                   |
| LITTLE TRUCKEE RIVER above Boca 2     | APR-JUL         | 91.5                 | 11.0                   | 12                     | 29.0                | 32                  | 5.0                 | 5                   |
| PYRAMID LAKE RISE (LOW 2/1/87)        | LOW-HIG         | 1.2                  |                        |                        |                     |                     |                     |                     |
| STEAMBOAT CREEK at Steamboat 2        | APR-JUL         | 7.1                  | 0.9                    | 13                     | 2.0                 | 28                  | 0.0                 | 0                   |
| SAGEHEN CREEK, Ca                     | APR-JUL         | 6.5                  | 1.5                    | 23                     | 3.0                 | 46                  | 0.0                 | 0                   |
| GALENA CREEK nr Steamboat, Nv         | APR-JUL         | 4.5                  | 1.5                    | 33                     | 2.0                 | 44                  | 1.0                 | 22                  |

| RESERVOIR STORAGE (1000AF) |                  |                                    |           |       | WATERSHED SNOWPACK ANALYSIS |                   |                                       |
|----------------------------|------------------|------------------------------------|-----------|-------|-----------------------------|-------------------|---------------------------------------|
| RESERVOIR                  | USEABLE CAPACITY | ** USEABLE STORAGE **<br>THIS YEAR | LAST YEAR | AVG.  | WATERSHED                   | NO. COURSES AVG'D | THIS YEAR AS % OF<br>LAST YR. AVERAGE |
| BOCA RESERVOIR             | 40.9             | 12.3                               | 28.5      | 29.5  | LAKE TAHOE RISE             | 1                 | 0 0                                   |
| LAKE TAHOE                 | 744.6            | 196.8                              | 511.3     | 451.4 | TRUCKEE BASIN               | 5                 | 91 10                                 |
| PROSSER RESERVOIR          | 28.6             | 10.0                               | 11.7      | 13.2  | LITTLE TRUCKEE RIVER        | 0                 | 0 0                                   |
| STAMPEDE RESERVOIR         | 226.5            | 83.7                               | 153.9     | 139.5 | SAGE HEN CREEK              | 2                 | 102 16                                |
|                            |                  |                                    |           |       | GALENA CREEK                | 0                 | 0 0                                   |
|                            |                  |                                    |           |       | STEAMBOAT DRAINAGE          | 0                 | 0 0                                   |
|                            |                  |                                    |           |       | PYRAMID LAKE                | 6                 | 91 10                                 |

1 - Reas. max. and reas. min. forecasts are for 5% and 95% exceedance levels and also (2) below.

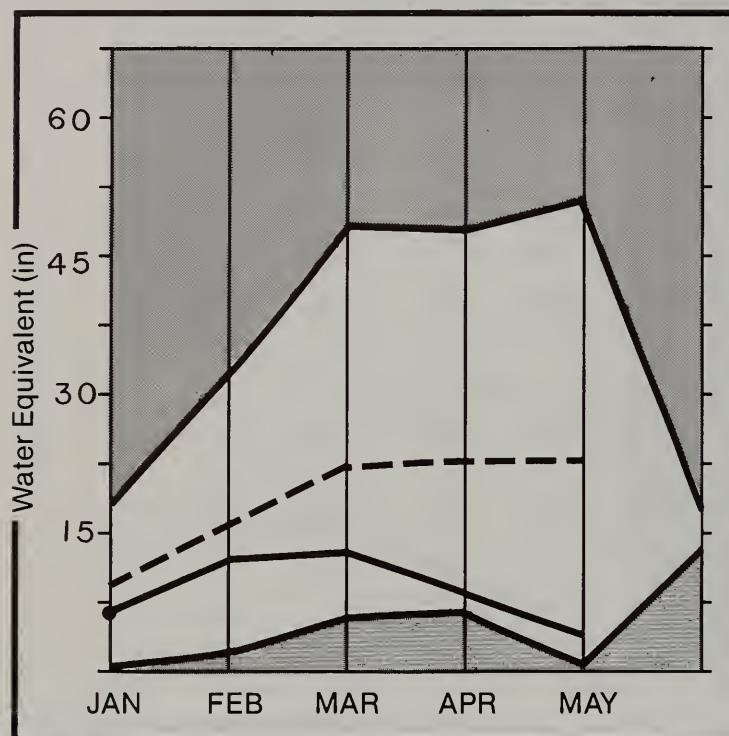
2 - Corrected for upstream diversions or changes in reservoir storage.

The average is computed for the 1961-85 base period.



## CARSON & WALKER BASINS

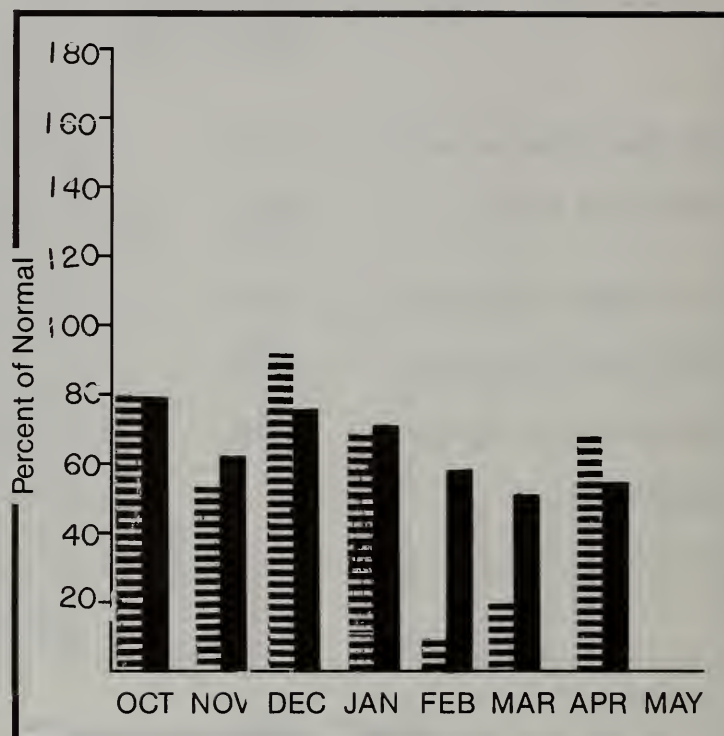
Mountain snowpack\* (inches)



\*Based on selected stations

Maximum  Average   
Minimum  Current 

Precipitation\* (percent of normal)



\*Based on selected stations

Monthly precipitation  Year to date precipitation 

## CARSON & WALKER BASINS

Snowpack conditions on May 1 remain well below average. The Carson River Basin has about 16% of the May 1 average and 95% of the water content present last year at this time. The Walker River Basin currently has 21% of average and 267% of last year. April precipitation in the Carson-Walker Basins was 67% of normal and 246% of last year. Precipitation since October 1, 1987 is 54% of average and 128% of last year's total precipitation figures at this time. Reservoir storage is 69% of average. Total storage for Bridgeport, Lahontan and Topaz is 210,717 acre feet. Streamflow forecasts indicate well below average for the forecast period. The Carson River near Carson City is expected to flow at 9% of normal or 14,400 acre feet during the May - July period.

For more information contact your local Soil Conservation Service office.

## CARSON &amp; WALKER BASINS

## STREAMFLOW FORECASTS

| FORECAST POINT                       | FORECAST PERIOD | 25 YR. AVG. (1000AF) | MOST PROBABLE (1000AF) | MOST PROBABLE (% AVG.) | REAS. MAX. (1000AF) | REAS. MAX. (% AVG.) | REAS. MIN. (1000AF) | REAS. MIN. (% AVG.) |
|--------------------------------------|-----------------|----------------------|------------------------|------------------------|---------------------|---------------------|---------------------|---------------------|
| EF CARSON RIVER nr Gardnerville, Nv  | APR-JUL         | 198.4                | 45.0                   | 23                     | 71.0                | 36                  | 19.0                | 10                  |
|                                      | MAY-JUL         | 165.8                | 29.0                   | 17                     | 50.0                | 30                  | 13.0                | 8                   |
| WF CARSON RIVER at Woodfords, Ca     | APR-JUL         | 56.7                 | 10.0                   | 18                     | 20.0                | 35                  | 2.0                 | 4                   |
|                                      | MAY-JUL         | 45.7                 | 5.0                    | 19                     | 16.0                | 35                  | 2.7                 | 6                   |
| CARSON RIVER near Carson City, Nv    | APR-JUL         | 198.3                | 20.0                   | 10                     | 56.0                | 28                  | 10.0                | 5                   |
|                                      | MAY-JUL         | 163.1                | 14.4                   | 9                      | 42.0                | 26                  | 6.5                 | 4                   |
| CARSON RIVER near Ft. Churchill, Nv  | APR-JUL         | 182.4                | 9.0                    | 5                      | 115.0               | 63                  | 3.6                 | 2                   |
|                                      | MAY-JUL         | 151.0                | 6.0                    | 4                      | 83.0                | 55                  | 3.0                 | 2                   |
| EAST WALKER RIVER nr Bridgeport 2    | APR-AUG         | 76.8                 | 15.0                   | 20                     | 41.0                | 53                  | 7.0                 | 9                   |
|                                      | MAY-AUG         | 67.3                 | 13.0                   | 19                     | 34.0                | 50                  | 6.0                 | 9                   |
| WEST WALKER RIVER near Coleville, Ca | APR-JUL         | 154.6                | 40.0                   | 26                     | 60.0                | 39                  | 20.0                | 13                  |
|                                      | MAY-JUL         | 138.7                | 29.0                   | 21                     | 49.0                | 35                  | 14.0                | 10                  |
| WALKER LAKE RISE (LOW 2/1/87)        | LOW-HIG         | -0.0                 | -3.3                   |                        |                     |                     |                     |                     |

| RESERVOIR STORAGE (1000AF) |                  |                                    |           |       | WATERSHED SNOWPACK ANALYSIS |                      |                                       |
|----------------------------|------------------|------------------------------------|-----------|-------|-----------------------------|----------------------|---------------------------------------|
| RESERVOIR                  | USEABLE CAPACITY | ** USEABLE STORAGE **<br>THIS YEAR | LAST YEAR | AVG.  | WATERSHED                   | NO. COURSES<br>AVG'D | THIS YEAR AS % OF<br>LAST YR. AVERAGE |
| BRIDGEPORT RESERVOIR       | 42.5             | 15.6                               | 37.2      | 30.5  | E. CARSON RIVER             | 1                    | 0 0                                   |
| LAHONTAN RESERVOIR         | 295.1            | 177.0                              | 258.5     | 229.0 | W. CARSON RIVER             | 1                    | 0 0                                   |
| TOPAZ RESERVOIR            | 59.4             | 18.0                               | 39.3      | 43.8  | CARSON Rv. at Carson City   | 1                    | 0 0                                   |
|                            |                  |                                    |           |       | CARSON Rv. at Ft. Churchi   | 1                    | 0 0                                   |
|                            |                  |                                    |           |       | E. WALKER Rv. nr Bridgepo   | 0                    | 0 0                                   |
|                            |                  |                                    |           |       | W. WALKER Rv. nr Colevill   | 0                    | 0 0                                   |
|                            |                  |                                    |           |       | WALKER LAKE RISE            | 0                    | 0 0                                   |

1 - Reas. max. and reas. min. forecasts are for 5% and 95% exceedance levels and also (2) below.

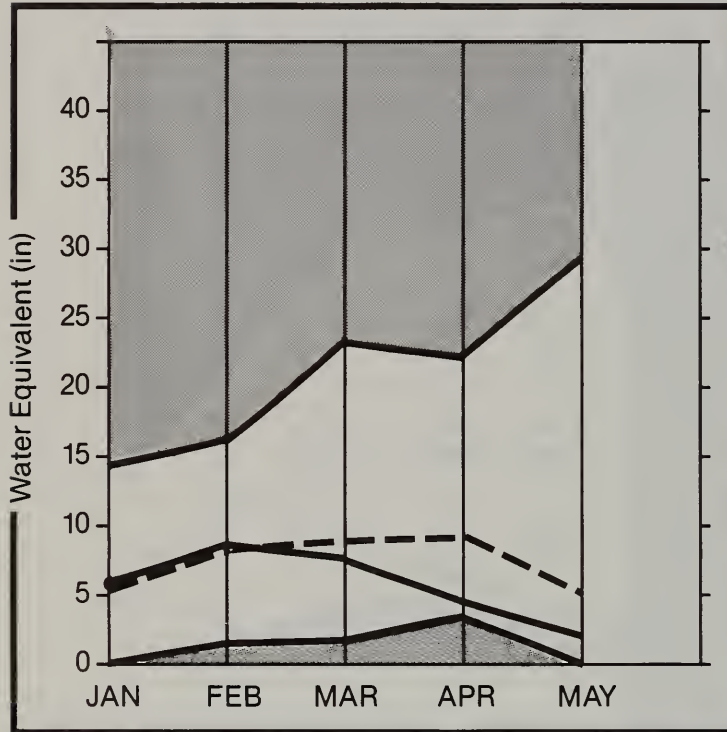
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The average is computed for the 1961-85 base period.



## HUMBOLDT BASIN

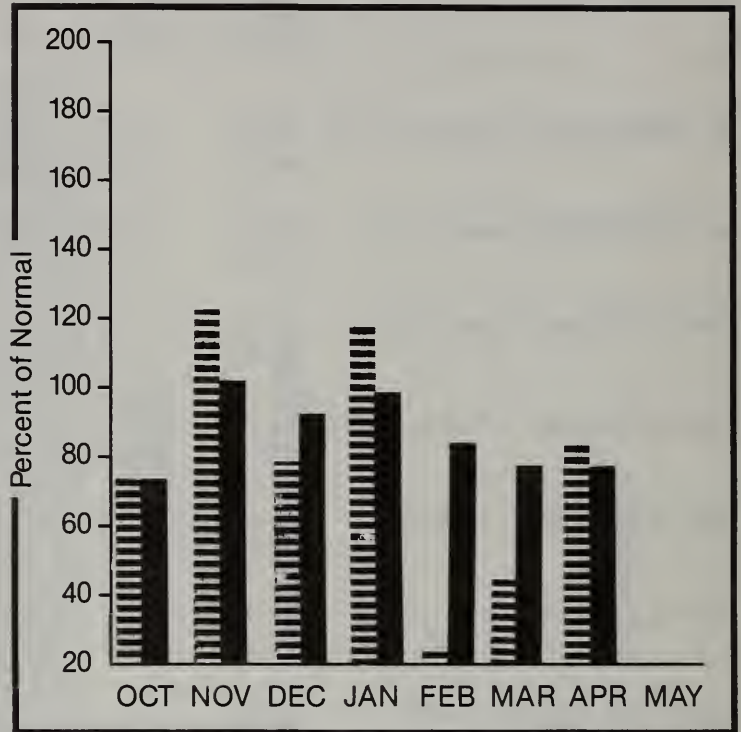
**Mountain snowpack\* (inches)**





\*Based on selected stations

Maximum  Average   
Minimum  Current 

**Precipitation\* (percent of normal)**



\*Based on selected stations

Monthly precipitation  Year to date precipitation 

## HUMBOLDT BASIN

Snowpack conditions on May 1 remain well below average. The Upper Humboldt River Basin has about 29% of the May 1 average and 263% of the water content present last year at this time. The Lower Humboldt River Basin currently has 52% of average and 200% of last year. April precipitation in the Humboldt River Basin was 83% of average and 360% of last year. Precipitation since October 1, 1987 is 77% of average and 136% of last year's total precipitation figures at this time. Reservoir storage is 62% of average. Total storage for Rye Patch Reservoir is 79,350 acre feet. Streamflow forecasts indicate well below average flows for the April - July forecast period. The Humboldt River at Palisade is expected to flow at 13% of normal or 35,000 acre feet.

For more information contact your local Soil Conservation Service office.



## STREAMFLOW FORECASTS

| FORECAST POINT                       | FORECAST PERIOD | 25 YR. AVG.<br>(1000AF) | MOST PROBABLE<br>(1000AF) | MOST PROBABLE<br>(% AVG.) | REAS. MAX.<br>(1000AF) | REAS. MAX.<br>(% AVG.) | REAS. MIN.<br>(1000AF) | REAS. MIN.<br>(% AVG.) |
|--------------------------------------|-----------------|-------------------------|---------------------------|---------------------------|------------------------|------------------------|------------------------|------------------------|
| HUMBOLDT RIVER at Palisade           | APR-JUL         | 269.0                   | 35.0                      | 13                        | 265.0                  | 99                     | 15.0                   | 6                      |
| HUMBOLDT RIVER at Comus              | APR-JUL         | 229.1                   | 15.0                      | 7                         | 260.0                  | 113                    | 5.0                    | 2                      |
| S FORK HUMBOLDT RIVER at Dixie       | APR-JUL         | 71.5                    | 30.0                      | 42                        | 91.0                   | 127                    | 10.0                   | 14                     |
| NF HUMBOLDT RIVER at Devils Gate     | APR-JUL         | 34.3                    | 10.0                      | 29                        | 35.0                   | 102                    | 3.0                    | 9                      |
| MARY'S RIVER nr Deeth                | APR-JUL         | 24.4                    | 12.2                      | 50                        | 26.0                   | 107                    | 5.0                    | 20                     |
| MARTIN CREEK nr Paradise Nv          | APR-JUL         | 19.0                    | 5.0                       | 26                        | 13.0                   | 68                     | 1.0                    | 5                      |
| LAMOILLE CREEK nr Lamoille           | APR-JUL         | 29.5                    | 13.0                      | 44                        | 24.0                   | 81                     | 2.0                    | 7                      |
| REESE RIVER nr Ione Nv               | APR-JUL         | 7.8                     | 5.0                       | 64                        | 12.0                   | 154                    | 2.0                    | 26                     |
| L. HUMBOLDT RIVER nr Paradise Valley | APR-JUL         | 12.5                    | 3.0                       | 24                        | 8.0                    | 64                     | 1.0                    | 8                      |
| ROCK CREEK nr Battle Mtn.            | APR-JUL         | 22.0                    | 1.0                       | 5                         | 20.0                   | 91                     | 0.4                    | 2                      |

| RESERVOIR STORAGE (1000AF) |                         |                                    |           |       | WATERSHED SNOWPACK ANALYSIS |                      |                                       |
|----------------------------|-------------------------|------------------------------------|-----------|-------|-----------------------------|----------------------|---------------------------------------|
| RESERVOIR                  | USEABLE :<br>CAPACITY : | ** USEABLE STORAGE **<br>THIS YEAR | LAST YEAR | AVG.  | WATERSHED                   | NO. COURSES<br>AVG'D | THIS YEAR AS % OF<br>LAST YR. AVERAGE |
| RYE PATCH RESERVOIR        | 194.3                   | 79.4                               | 136.5     | 128.1 | LAMOILLE CREEK              | 0                    | 0 0                                   |
|                            |                         |                                    |           |       | S. FORK HUMBOLDT            | 0                    | 0 0                                   |
|                            |                         |                                    |           |       | MARY'S RIVER                | 4                    | 191 74                                |
|                            |                         |                                    |           |       | N. FORK HUMBOLDT            | 0                    | 0 0                                   |
|                            |                         |                                    |           |       | HUMBOLDT Rv. at Palisades   | 0                    | 0 0                                   |
|                            |                         |                                    |           |       | HUMBOLDT RIVER at Comus     | 0                    | 0 0                                   |
|                            |                         |                                    |           |       | LITTLE HUMBOLDT RIVER       | 0                    | 0 0                                   |
|                            |                         |                                    |           |       | MARTIN CREEK                | 0                    | 0 0                                   |
|                            |                         |                                    |           |       | REESE RIVER                 | 0                    | 0 0                                   |
|                            |                         |                                    |           |       | ROCK CREEK                  | 0                    | 0 0                                   |

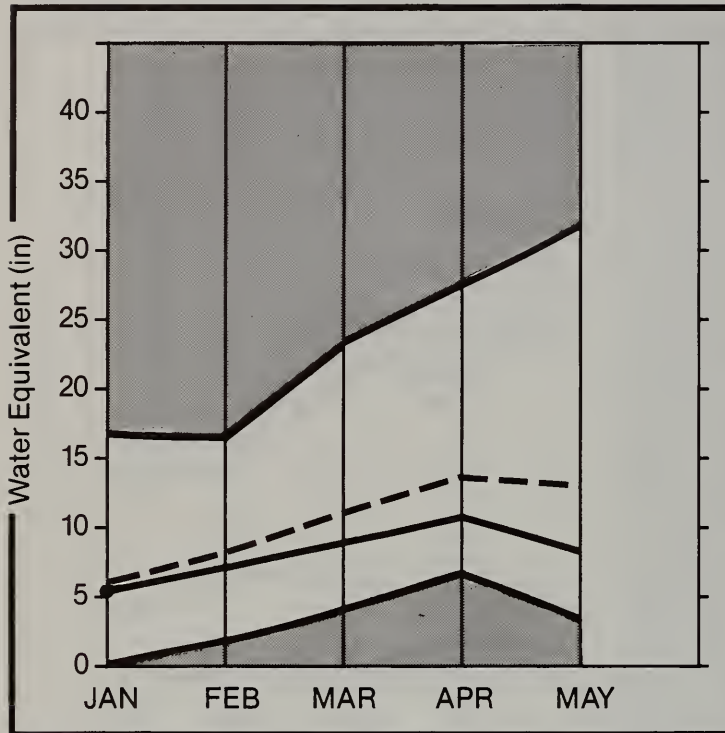
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2 - Corrected for upstream diversions or changes in reservoir storage.

The average is computed for the 1961-85 base period.

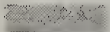
# SNAKE & OWYHEE BASINS

**Mountain snowpack\*** (inches)



\*Based on selected stations

Maximum



Average



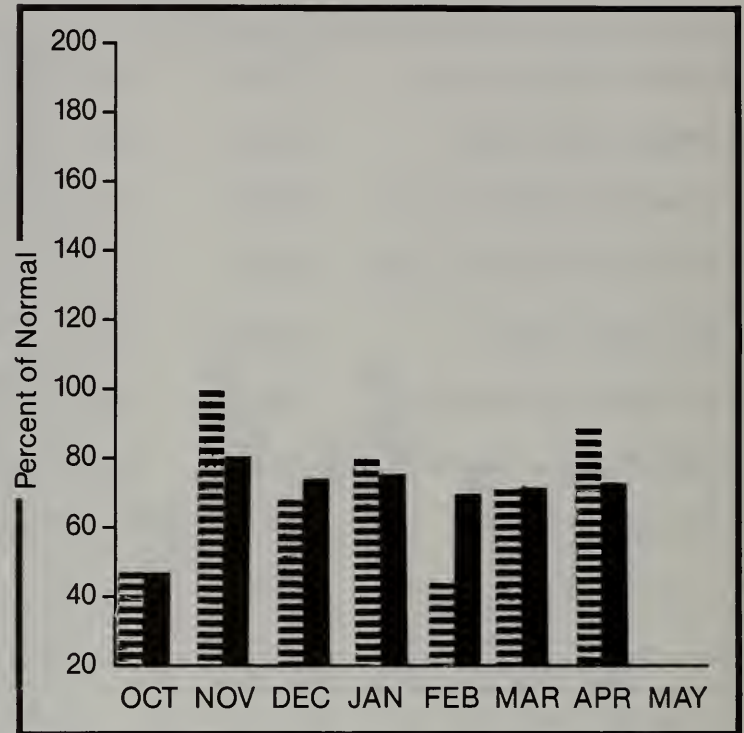
Minimum



Current



**Precipitation\*** (percent of normal)



\*Based on selected stations

Monthly precipitation



Year to date precipitation



## SNAKE & OWYHEE BASINS

Snowpack conditions on May 1 range from below average to well below average. The Snake River Basin has about 74% of the May 1 average and 191% of the water content present last year at this time. The Owyhee River Basin currently has 31% of average and last year at this time the sites in the basin were reporting no snow. April precipitation in the Snake-Owyhee Basin was 88% of average and 219% of last year. Precipitation since October 1, 1987 is 72% of average and 137% of last year's total precipitation figures at this time. Reservoir storage is 93% of average. Total storage for Wildhorse Reservoir is 32,440 acre feet. Streamflow forecasts indicate well below average flows for the forecast period. The Owyhee River near Owyhee is expected to flow at 44% of average or 38,000 acre feet during the April - July period.

For more information contact your local Soil Conservation Service office.



# SNAKE & OWYHEE BASINS

## STREAMFLOW FORECASTS

| FORECAST POINT                  | FORECAST PERIOD | 25 YR. AVG. (1000AF) | MOST PROBABLE (1000AF) | MOST PROBABLE (% AVG.) | REAS. MAX. (1000AF) | REAS. MAX. (% AVG.) | REAS. MIN. (1000AF) | REAS. MIN. (% AVG.) |
|---------------------------------|-----------------|----------------------|------------------------|------------------------|---------------------|---------------------|---------------------|---------------------|
| OWYHEE RIVER near Gold Creek    | APR-JUL         | 27.8                 | 13.0                   | 47                     | 28.0                | 101                 | 3.0                 | 11                  |
|                                 | MAY-JUL         | 13.9                 | 6.4                    | 46                     | 12.5                | 90                  | 1.5                 | 11                  |
| OWYHEE RIVER nr Owyhee          | APR-JUL         | 86.0                 | 38.0                   | 44                     | 65.0                | 76                  | 11.0                | 13                  |
| S FORK OWYHEE nr White Rock, Nv | APR-JUL         | 83.0                 | 43.0                   | 52                     | 69.0                | 83                  | 17.0                | 20                  |
| SALMON FALLS CK nr San Jacinto  | MAR-JUL         | 97.0                 | 60.0                   | 62                     | 90.0                | 93                  | 20.0                | 21                  |
|                                 | MAY-JUL         | 62.0                 | 37.0                   | 60                     | 60.0                | 97                  | 13.0                | 21                  |

| RESERVOIR STORAGE (1000AF) |                  |                           |                           |                      | WATERSHED SNOWPACK ANALYSIS |                   |                                    |
|----------------------------|------------------|---------------------------|---------------------------|----------------------|-----------------------------|-------------------|------------------------------------|
| RESERVOIR                  | USEABLE CAPACITY | USEABLE STORAGE THIS YEAR | USEABLE STORAGE LAST YEAR | USEABLE STORAGE AVG. | WATERSHED                   | NO. COURSES AVG'D | THIS YEAR AS % OF LAST YR. AVERAGE |
| WILDHORSE RESERVOIR        | 71.5             | 32.4                      | 45.4                      | 34.7                 | OWYHEE RIVER nr Owyhee      | 1                 | 311 55                             |
|                            |                  |                           |                           |                      | OWYHEE Rv. nr Gold Creek    | 0                 | 0 0                                |
|                            |                  |                           |                           |                      | S. FORK OWYHEE RIVER        | 1                 | 311 55                             |
|                            |                  |                           |                           |                      | SALMON FALLS CREEK          | 3                 | 206 72                             |

1 - Reas. max. and reas. min. forecasts are for 5% and 95% exceedance levels and also (2) below.

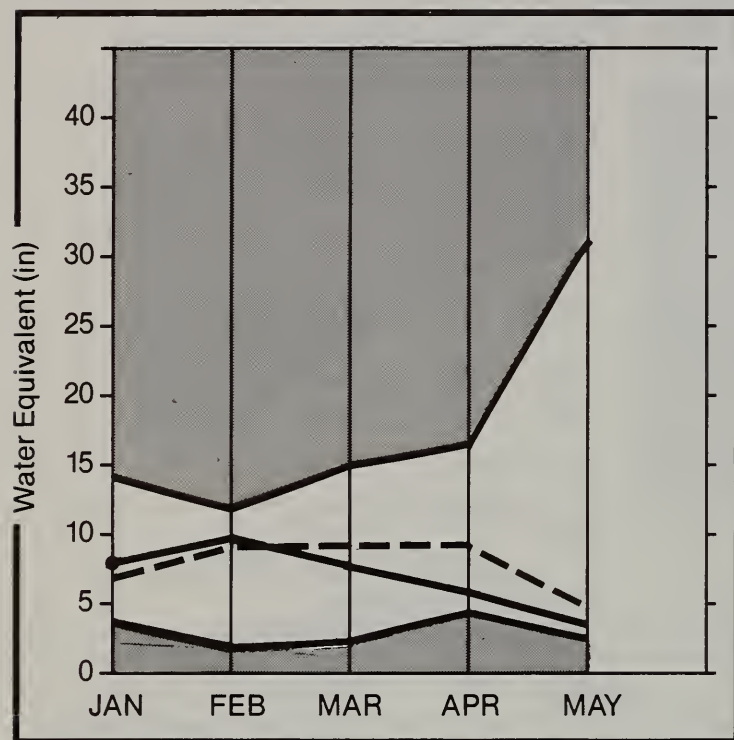
2 - Corrected for upstream diversions or changes in reservoir storage.

The average is computed for the 1961-85 base period.



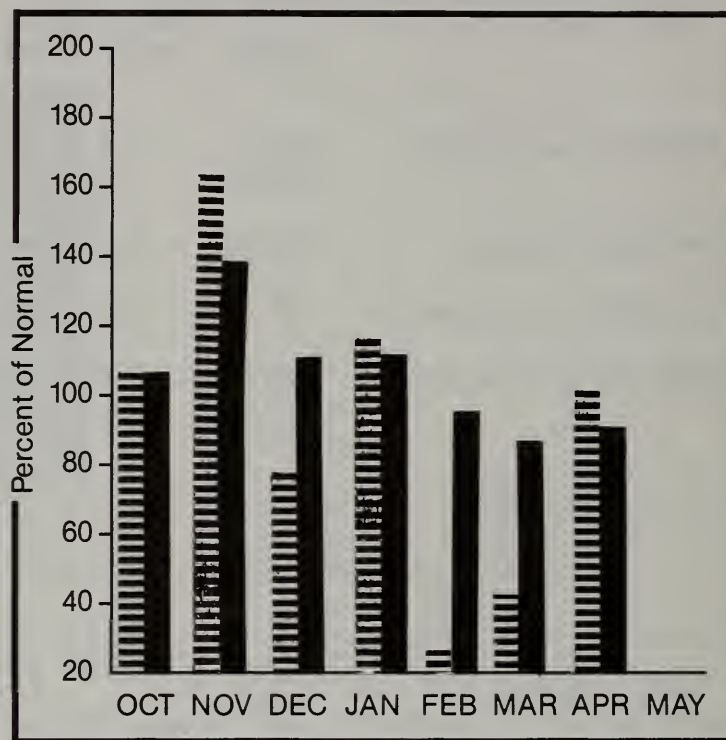
## EASTERN NEVADA

**Mountain snowpack\*** (inches)



\*Based on selected stations

**Precipitation\*** (percent of normal)



\*Based on selected stations

Maximum



Average



Minimum



Current



Monthly precipitation



Year to date precipitation



### EASTERN NEVADA

Snowpack conditions on May 1 are below average. The sites in the Franklin River Basin are reporting no snow at this time. The snowpack in the Kingston Creek Basin is about 78% of average and 200% of last year. Overall, the Eastern Nevada Basin has 77% of the May 1 average and 483% of the water content present last year at this time. April precipitation in the Eastern Nevada Basin was 101% of average and 438% of last year. Precipitation since October 1, 1987 is 90% of average and 157% of last year's total precipitation figures at this time. Streamflow forecasts indicate well below average flows for the April - July forecast period. The Franklin River near Arthur is expected to flow at 44% of normal or 3000 acre feet.

For more information contact your local Soil Conservation Service office.

# EASTERN NEVADA

## STREAMFLOW FORECASTS

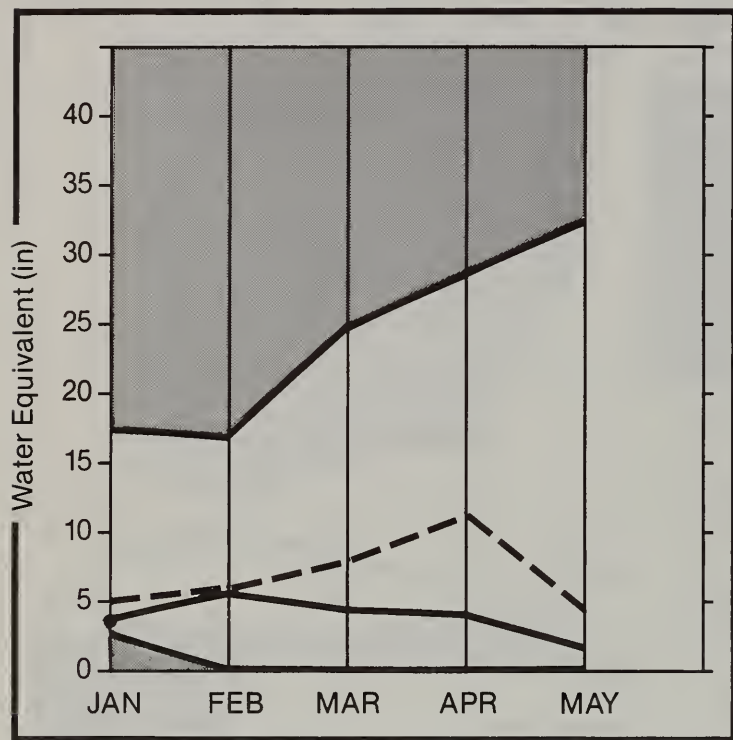
| FORECAST POINT               | FORECAST | 25 YR.           | MOST                 | MOST                 | REAS.            | REAS.            | REAS.            | REAS.            |
|------------------------------|----------|------------------|----------------------|----------------------|------------------|------------------|------------------|------------------|
|                              | PERIOD   | AVG.<br>(1000AF) | PROBABLE<br>(1000AF) | PROBABLE<br>(% AVG.) | MAX.<br>(1000AF) | MAX.<br>(% AVG.) | MIN.<br>(1000AF) | MIN.<br>(% AVG.) |
| STEPTOE CREEK nr Ely         | APR-JUL  | 3.2              | 2.0                  | 62                   | 5.0              | 155              | 1.0              | 31               |
| KINGSTON CREEK nr Austin, Nv | APR-JUL  | 4.2              | 2.7                  | 64                   | 6.0              | 142              | 1.0              | 24               |
| FRANKLIN RIVER nr Arthur     | APR-JUL  | 6.9              | 3.0                  | 44                   | 9.0              | 131              | 1.0              | 15               |

| RESERVOIR STORAGE |           | (1000AF)              | WATERSHED SNOWPACK ANALYSIS |                         |                       |
|-------------------|-----------|-----------------------|-----------------------------|-------------------------|-----------------------|
| RESERVOIR         | USEABLE : | ** USEABLE STORAGE ** | WATERSHED                   | NO.<br>COURSES<br>AVG'D | THIS YEAR AS % OF     |
|                   | CAPACITY: | THIS      LAST        |                             |                         | LAST YR.      AVERAGE |
|                   | : YEAR    | YEAR      AVG.        |                             |                         |                       |
|                   |           |                       | FRANKLIN RIVER              | 0                       | 0      0              |
|                   |           |                       | KINGSTON CREEK              | 0                       | 0      0              |
|                   |           |                       | EASTERN NEVADA              | 0                       | 0      0              |
|                   |           |                       | STEPTOE VALLEY              | 0                       | 0      0              |

- 1 - Reas. max. and reas. min. forecasts are for 5% and 95% exceedance levels and also (2) below.  
 2 - Corrected for upstream diversions or changes in reservoir storage.  
 The average is computed for the 1961-85 base period.

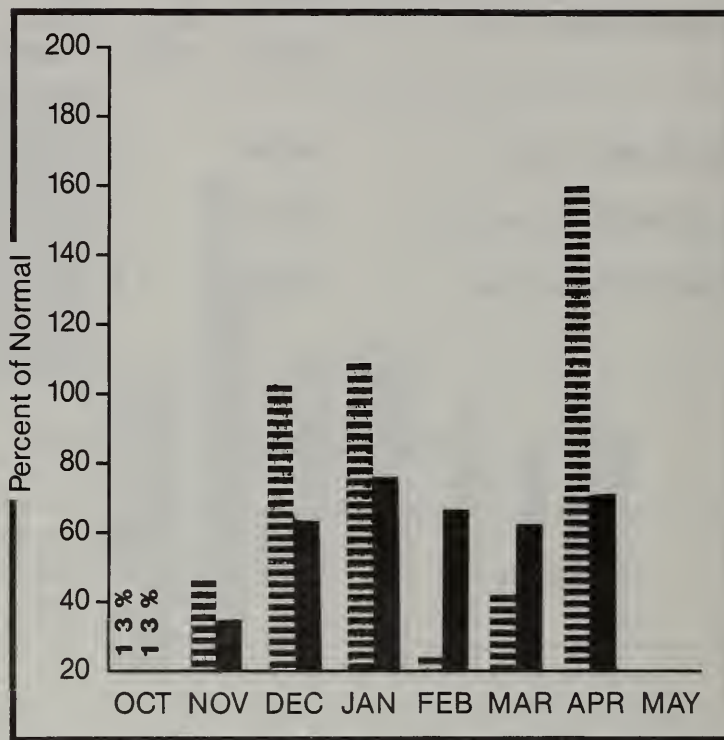
## NORTHERN GREAT BASIN

**Mountain snowpack\* (inches)**



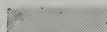
\*Based on selected stations

**Precipitation\* (percent of normal)**



\*Based on selected stations

Maximum



Average



Minimum



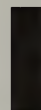
Current



Monthly precipitation



Year to date precipitation



### NORTHERN GREAT BASIN

Snowpack conditions on May 1 remain well below average. Snow water content in the Bidwell Creek Watershed is about 44% of average and 152% of last year. The Quinn River Watershed is about 26% of average and 118% of last year. Overall, the Northern Great Basin has 38% of the May 1 average and 143% of the water content present last year at this time. April precipitation in the Northern Great Basin was 159% of average and 241% of last year. Precipitation since October 1, 1987 is 70% of average and 108% of last year's total precipitation figures at this time. Streamflow forecasts indicate well below average flows for the April - July forecast period. Bidwell Creek near Fort Bidwell is expected to flow at 36% of normal or 4300 acre feet.

For more information contact your local Soil Conservation Service office.



# NORTHERN GREAT BASIN

## STREAMFLOW FORECASTS

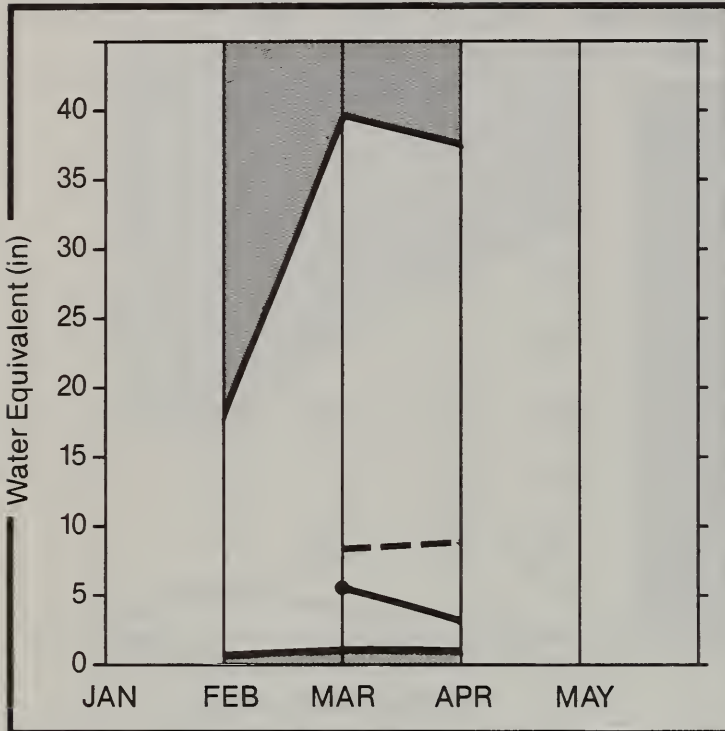
| FORECAST POINT                   | FORECAST PERIOD | 25 YR. AVG. (1000AF) | MOST PROBABLE (1000AF) | MOST PROBABLE (% AVG.) | REAS. MAX. (1000AF) | REAS. MAX. (% AVG.) | REAS. MIN. (1000AF) | REAS. MIN. (% AVG.) |
|----------------------------------|-----------------|----------------------|------------------------|------------------------|---------------------|---------------------|---------------------|---------------------|
| BIDWELL CREEK nr Fort Bidwell    | APR-JUL         | 12.0                 | 4.3                    | 36                     | 8.0                 | 67                  | 1.0                 | 8                   |
| DEEP CREEK nr Cedarville, Ca     | APR-JUL         | 3.6                  | 1.3                    | 36                     | 2.0                 | 56                  | 0.5                 | 14                  |
| EAGLE CREEK nr Eagleville, Ca    | APR-JUL         | 4.3                  | 1.7                    | 40                     | 3.0                 | 70                  | 0.4                 | 9                   |
| MILL CREEK nr Cedarville, Ca     | APR-JUL         | 4.1                  | 1.3                    | 32                     | 3.0                 | 73                  | 0.4                 | 10                  |
| QUINN RIVER nr McDermitt, Nv     | APR-JUL         | 16.0                 | 3.0                    | 19                     | 10.0                | 63                  | 1.0                 | 6                   |
| E. FORK QUINN RIVER nr McDermitt | APR-JUL         | 10.4                 | 2.5                    | 24                     | 7.0                 | 67                  |                     | -9                  |
| MCDERMITT CREEK nr McDermitt     | APR-JUL         | 14.4                 | 3.5                    | 24                     | 9.0                 | 63                  | 1.0                 | 7                   |

| RESERVOIR STORAGE (1000AF) |   | WATERSHED SNOWPACK ANALYSIS |                   |  |
|----------------------------|---|-----------------------------|-------------------|--|
| RESERVOIR                  | USEABLE : CAPACITY :<br>USEABLE STORAGE :<br>THIS YEAR    LAST YEAR    AVG. | WATERSHED                   | NO. COURSES AVG'D | THIS YEAR AS % OF<br>LAST YR.    AVERAGE |
|                            |   | BIDWELL                     | 1                 | 0    0                                   |
|                            |   | MILL CREEK                  | 1                 | 0    0                                   |
|                            |   | DEEP CREEK                  | 1                 | 0    0                                   |
|                            |   | EAGLE CREEK                 | 1                 | 0    0                                   |
|                            |   | QUINN RIVER                 | 0                 | 0    0                                   |
|                            |   | E. FORK QUINN               | 0                 | 0    0                                   |
|                            |   | MCDERMITT CREEK             | 0                 | 0    0                                   |

- 1 - Reas. max. and reas. min. forecasts are for 5% and 95% exceedance levels and also (2) below.  
 2 - Corrected for upstream diversions or changes in reservoir storage.  
 The average is computed for the 1961-85 base period.

## SOUTHERN NEVADA

**Mountain snowpack\* (inches)**

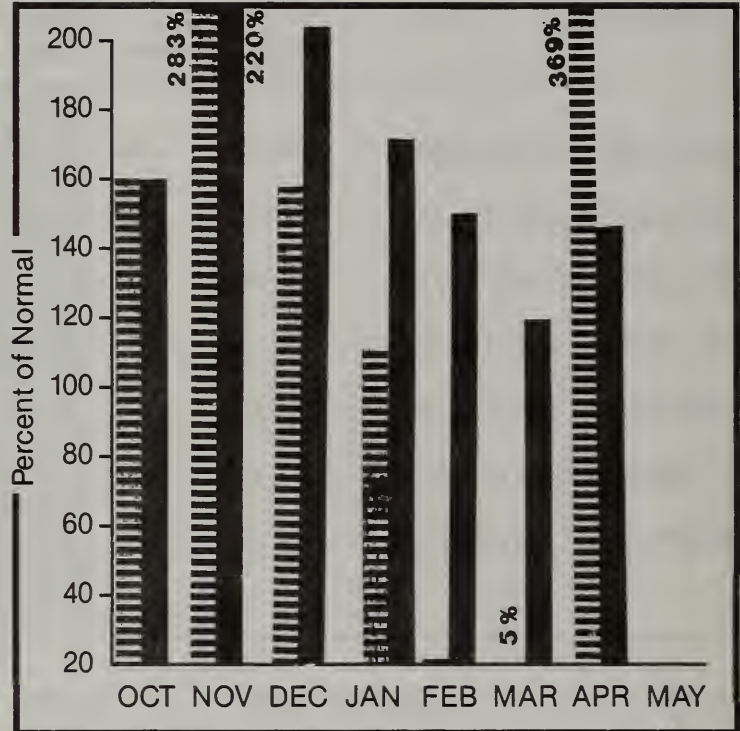


\*Based on selected stations

Maximum   
Minimum

Average   
Current

**Precipitation\* (percent of normal)**



\*Based on selected stations

Monthly precipitation

Year to date precipitation

### SOUTHERN NEVADA

Snowpack conditions on May 1 in the Virgin River Watershed are below average. Snow water content in the Virgin River Watershed is currently 88% of average and 148% of last year. April precipitation in the Southern Nevada Basin was 369% of average and 315% of last year. Precipitation since October 1, 1987 is 145% of average and 144% of last year's total precipitation figures at this time. Reservoir storage is 124% of average. Total storage for Lake Mohave and Lake Mead is 27,969,000 acre feet. Streamflow forecasts indicate the Virgin River near Hurricane, UT will flow at 118% of average or 80,000 acre feet during the April - July forecast period.

For more information contact your local Soil Conservation Service office.

## SOUTHERN NEVADA

## STREAMFLOW FORECASTS

| FORECAST POINT                  | FORECAST | 25 YR.           | MOST                 | MOST                 | REAS.            | REAS.            | REAS.            | REAS.            |
|---------------------------------|----------|------------------|----------------------|----------------------|------------------|------------------|------------------|------------------|
|                                 | PERIOD   | AVG.<br>(1000AF) | PROBABLE<br>(1000AF) | PROBABLE<br>(% AVG.) | MAX.<br>(1000AF) | MAX.<br>(% AVG.) | MIN.<br>(1000AF) | MIN.<br>(% AVG.) |
| VIRGIN RIVER near Hurricane, UT | APR-JUL  | 68.0             | 80.0                 | 118                  | 113.0            | 166              | 47.0             | 69               |
|                                 | MAY-JUN  | 43.8             | 50.0                 | 114                  | 70.0             | 160              | 30.0             | 68               |
| LAKE POWELL inflow              | APR-JUL  | 8086.0           | 6300.0               | 78                   | 8160.0           | 101              | 4600.0           | 57               |

| RESERVOIR STORAGE |           |                       |         |         | (1000AF)                  | WATERSHED SNOWPACK ANALYSIS |                   |         |  |
|-------------------|-----------|-----------------------|---------|---------|---------------------------|-----------------------------|-------------------|---------|--|
| RESERVOIR         | USEABLE : | ** USEABLE STORAGE ** |         |         | WATERSHED                 | NO.<br>COURSES<br>AVG'D     | THIS YEAR AS % OF |         |  |
|                   | CAPACITY: | THIS                  | LAST    |         |                           |                             | LAST YR.          | AVERAGE |  |
|                   | : YEAR    | YEAR                  | AVG.    |         |                           |                             |                   |         |  |
| LAKE MOHAVE       | 1810.0    | 1774.2                | 1728.2  | 1675.0  | VIRGIN Rv. at Littlefield | 4                           | 148               | 88      |  |
| LAKE MEAD         | 26159.0   | 24144.0               | 24043.0 | 19278.0 | VIRGIN Rv. at Hurricane,  | 4                           | 148               | 88      |  |

1 - Reas. max. and reas. min. forecasts are for 5% and 95% exceedance levels and also (2) below.

2 - Corrected for upstream diversions or changes in reservoir storage.

The average is computed for the 1961-85 base period.



# SNOW DATA MEASUREMENTS

| SNOW COURSE           | ELEVATION | DATE    | SNOW DEPTH | WATER CONTENT | LAST YEAR | AVERAGE 1961-85 |
|-----------------------|-----------|---------|------------|---------------|-----------|-----------------|
| LAKE TAHOE            |           |         |            |               |           |                 |
| ECHO PEAK (CA)        | 7800      | 4/29/88 | ---        | 2.4E          | --        | 36.7            |
| ECHO SUMMIT (CA)      | 7450      | 4/29/88 | 8          | 3.0           | --        | 27.8            |
| FALLEN LEAF (CA)      | 6300      | 5/01/88 | 0          | .0E           | .0        | .0              |
| FREEL BENCH (CA)      | 7300      | 5/01/88 | 0          | .0E           | --        | 5.0             |
| GLENBROOK #2          | 6900      | 5/01/88 | 0          | .0E           | --        | 3.6             |
| HAGANS MEADOW (CA)    | 8000      | 5/01/88 | 0          | .0E           | --        | 11.8            |
| HEAVENLY VALLEY (CA)  | 8850      | 5/01/88 | 0          | .0E           | --        | 27.1            |
| MARLETTE LAKE         | 8000      | 5/01/88 | 0          | .0E           | --        | 20.3            |
| RICHARDSONS #2 (CA)   | 6500      | 5/01/88 | 0          | .0E           | --        | 4.7             |
| RUBICON #2 (CA)       | 7500      | 4/26/88 | ---        | 1.7E          | --        | 31.2            |
| TAHOE CITY CROSS (CA) | 6750      | 5/01/88 | 0          | .0E           | --        | 16.9            |
| TRUCKEE, UPPER (CA)   | 6400      | 5/01/88 | 0          | .0E           | --        | 2.2             |
| WARD CREEK #2 (CA)    | 7000      | 4/26/88 | ---        | 1.2E          | --        | 37.4            |
| WARD CREEK #3 (CA)    | 6750      | 5/01/88 | ---        | 5.4E          | --        | 35.3            |
| TRUCKEE RIVER         |           |         |            |               |           |                 |
| BIG MEADOWS           | 8300      | 5/01/88 | 0          | .0E           | .0        | 19.6            |
| BROCKWAY SUMMIT (CA)  | 7100      | 5/01/88 | 0          | .0E           | --        | 2.8             |
| CASTLE CREEK (CA)     | 7400      | 5/02/88 | 28         | 13.3          | 14.0      | 50.9            |
| DONNER SUMMIT (CA)    | 6900      | 4/26/88 | 7          | 1.8           | 3.0       | 34.1            |
| FORDYCE LAKE (CA)     | 6500      | 4/27/88 | 7          | 2.4           | 2.3       | 38.6            |
| FURNACE FLAT (CA)     | 6700      | 4/27/88 | 28         | 11.8          | 11.6      | 47.9            |
| INDEPENDENCE CAMP CA  | 7000      | 5/01/88 | 0          | .0E           | --        | 15.7            |
| INDEPENDENCE CREEK    | 6500      | 5/01/88 | 0          | .0E           | --        | 6.3             |
| INDEPENDENCE LAKE CA  | 8450      | 5/01/88 | ---        | 17.4E         | --        | 45.3            |
| LITTLE VALLEY         | 6300      | 5/01/88 | 0          | .0E           | --        | .0              |
| MT. ROSE              | 9000      | 5/01/88 | ---        | 10.8E         | --        | 34.2            |
| MT. ROSE SKI AREA     | 9000      | 5/01/88 | ---        | 13.9E         | --        | 43.3            |
| SQUAW VALLEY #2 (CA)  | 7500      | 5/01/88 | ---        | 9.1E          | --        | 50.9            |
| SQUAW VALLEY G.C., CA | 8200      | 5/01/88 | ---        | 9.5S          | --        | 55.6            |
| TAHOE CITY CROSS (CA) | 6750      | 5/01/88 | 0          | .0E           | --        | 16.9            |
| TRUCKEE #2 (CA)       | 6400      | 5/01/88 | 0          | .0E           | --        | 9.3             |

# SNOW DATA MEASUREMENTS (CONT)

| SNOW COURSE          | ELEVATION | DATE    | SNOW<br>DEPTH | WATER<br>CONTENT | LAST<br>YEAR | AVERAGE<br>1961-85 |
|----------------------|-----------|---------|---------------|------------------|--------------|--------------------|
| -----                |           |         |               |                  |              |                    |
| CARSON RIVER         |           |         |               |                  |              |                    |
| BLUE LAKES (CA)      | 8000      | 4/28/88 | 28            | 13.2             | --           | 35.2               |
| CARSON PASS, UP (CA) | 8600      | 4/27/88 | 0             | .0               | .0           | 34.1               |
| CLEAR CREEK          | 7300      | 5/01/88 | 0             | .0E              | --           | .0                 |
| POISON FLAT #2 (CA)  | 7900      | 5/01/88 | ---           | .6E              | --           | 12.2               |
| SPRATT CREEK (CA)    | 6080      | 5/01/88 | 0             | .0E              | --           | .0                 |
| WET MEADOWS #2 (CA)  | 8100      | 5/01/88 | ---           | 8.8E             | --           | 41.2               |
| WALKER RIVER         |           |         |               |                  |              |                    |
| LEAVITT LAKE (CA)    | 9400      | 5/01/88 | ---           | 11.9E            | --           | 55.0               |
| LEAVITT MEADOWS (CA) | 7200      | 5/01/88 | 0             | .0E              | --           | .0                 |
| LOBDELL LAKE (CA)    | 9200      | 5/01/88 | ---           | 1.7E             | --           | 16.6               |
| SAWMILL RIDGE (CA)   | 8750      | 5/01/88 | ---           | 1.6E             | --           | 18.6               |
| SONORA PASS (CA)     | 8800      | 5/01/88 | ---           | 6.5E             | --           | 22.0               |
| VIRGINIA LAKES (CA)  | 9500      | 5/01/88 | ---           | 1.7E             | --           | 15.5               |
| VIRGINIA LAKES RIDGE | 9200      | 5/01/88 | ---           | 5.2E             | --           | 18.4               |
| WILLOW FLAT (CA)     | 8250      | 5/01/88 | 0             | .0E              | --           | 1.7                |
| NORTHERN GREAT BASIN |           |         |               |                  |              |                    |
| DISASTER PEAK        | 6500      | 5/01/88 | 0             | .0E              | --           | 3.0                |

# SNOW DATA MEASUREMENTS (CONT)

| SNOW COURSE           | ELEVATION | DATE    | SNOW<br>DEPTH | WATER<br>CONTENT | LAST<br>YEAR | AVERAGE<br>1961-85 |
|-----------------------|-----------|---------|---------------|------------------|--------------|--------------------|
| -----                 |           |         |               |                  |              |                    |
| HUMBOLDT RIVER, UPPER |           |         |               |                  |              |                    |
| CORRAL CANYON         | 8500      | 5/01/88 | ---           | 9.0E             | --           | 14.7               |
| DORSEY BASIN          | 8100      | 5/01/88 | 0             | .0E              | --           | 12.4               |
| DRY CREEK             | 6500      | 5/01/88 | 0             | .0E              | --           | .0                 |
| FRY CANYON            | 6700      | 5/01/88 | 0             | .0E              | --           | 1.3                |
| GREEN MOUNTAIN        | 8000      | 5/01/88 | ---           | 1.5E             | --           | 9.9                |
| HARRISON PASS #1      | 6600      | 5/01/88 | 0             | .0E              | --           | .0                 |
| HARRISON PASS #2      | 7400      | 5/01/88 | 0             | .0E              | --           | .0                 |
| POLE CANYON #2        | 7700      | 5/01/88 | 0             | .0E              | --           | --                 |
| RYAN RANCH            | 5800      | 5/01/88 | 0             | .0E              | --           | .0                 |
| TREMEWAN RANCH        | 5700      | 5/01/88 | 0             | .0E              | --           | .0                 |
| TROUT CREEK, LOWER    | 6900      | 5/01/88 | 0             | .0E              | --           | .0                 |
| HUMBOLDT RIVER, LOWER |           |         |               |                  |              |                    |
| BIG CREEK CAMPGROUND  | 6600      | 5/01/88 | 0             | .0E              | --           | .0                 |
| BIG CREEK MINE        | 7600      | 5/01/88 | ---           | 2.4E             | --           | .0                 |
| BIG CREEK SUMMIT      | 8700      | 5/01/88 | ---           | 10.0E            | --           | 15.8               |
| BUCKSKIN, LOWER       | 6700      | 5/01/88 | 0             | .0E              | --           | .0                 |
| GOLCONDA #2           | 6000      | 5/01/88 | 0             | .0E              | --           | .0                 |
| GRANITE PEAK          | 7800      | 5/01/88 | ---           | 5.7E             | --           | 18.9               |
| LAMANCE CREEK         | 6000      | 5/01/88 | 0             | .0E              | --           | .0                 |
| MARTIN CREEK          | 6700      | 5/01/88 | 0             | .0E              | --           | .0                 |
| MIDAS                 | 7200      | 5/01/88 | 0             | .0E              | --           | .0                 |



# SNOW DATA MEASUREMENTS (CONT)

| SNOW COURSE          | ELEVATION | DATE    | SNOW<br>DEPTH | WATER<br>CONTENT | LAST<br>YEAR | AVERAGE<br>1961-85 |
|----------------------|-----------|---------|---------------|------------------|--------------|--------------------|
| -----                |           |         |               |                  |              |                    |
| SNAKE RIVER          |           |         |               |                  |              |                    |
| BEAR CREEK           | 7800      | 5/01/88 | ---           | 11.8E            | 3.8          | 21.5               |
| GOAT CREEK           | 8800      | 5/02/88 | 45            | 16.6             | 7.3          | 20.9               |
| HUMMINGBIRD SPRINGS  | 8950      | 5/02/88 | 54            | 21.6             | 13.1         | 27.7               |
| POLE CREEK R.S.      | 8330      | 5/02/88 | 47            | 18.8             | 11.8         | 23.4               |
| SEVENTYSIX CREEK     | 7100      | 5/01/88 | 0             | .0E              | --           | 7.6                |
| OWYHEE RIVER         |           |         |               |                  |              |                    |
| BIG BEND             | 6700      | 5/01/88 | 0             | .0E              | --           | 2.8                |
| JACK CREEK, UPPER    | 7250      | 5/01/88 | ---           | 2.6E             | --           | 5.2                |
| JACK CREEK #2, UPPER | 7280      | 5/01/88 | ---           | 5.6E             | .3           | 14.6               |
| JACKS PEAK           | 8420      | 5/01/88 | ---           | 9.0E             | --           | 28.3               |
| TAYLOR CANYON        | 6200      | 5/01/88 | 0             | .0E              | --           | .7                 |
| EASTERN NEVADA       |           |         |               |                  |              |                    |
| BERRY CREEK          | 9100      | 5/01/88 | ---           | 12.6E            | --           | 16.3               |
| WARD MOUNTAIN #2     | 9200      | 5/01/88 | ---           | 3.0E             | --           | --                 |

# SNOW CORE MEASUREMENTS - DRI-ASC

| DATE<br>APR. | SITE | ELEVATION<br>FEET | LOCATION                | SNOW<br>IN. | WATER<br>IN. | DENSITY | % OF<br>NORMAL |
|--------------|------|-------------------|-------------------------|-------------|--------------|---------|----------------|
| 28           | JC   | 5800              | Clear Creek             | 0           | 0            |         |                |
| 28           | SS   | 7260              | Spooner Summit          | 0           | 0            |         |                |
| 28           | FT   | 5250              | Cliff Ranch, Franktown  | 0           | 0            |         |                |
| 28           | LV   | 6540              | Little Valley           | 0           | 0            |         |                |
| 28           | DC   | 5160              | Davis Creek             | 0           | 0            |         |                |
| 28           | 8    | 4590              | Jct. 395 & NV 27        | 0           | 0            |         |                |
| 28           | 6    | 5110              | Lancer                  | 0           | 0            |         |                |
| 28           | 4    | 5670              | Whites Creek            | 0           | 0            |         |                |
| 28           | R    | 5700              | Evergreen Hills Rd.     | 0           | 0            |         |                |
| 28           | 2    | 6000              | Jones Creek             | 0           | 0            |         |                |
| 28           | 0    | 6400              | RNR Forestry Site       | 0           | 0            |         |                |
| 28           | N    | 7060              | Reindeer Lodge          | 0           | 0            |         |                |
| 28           | M    | 7440              | Galena Creek            | 0           | 0            |         |                |
| 28           | K    | 7620              | Sky Tavern              | 0           | 0            |         |                |
| 28           | G    | 8280              | Mt. Rose Resort         | 0           | 0            |         |                |
| 28           | D    | 8820              | Tamarack Lake           | 18.0        | 8.5          | .47     | 24             |
| 28           | A    | 8540              | Tahoe Meadows           | 17.0        | 8.0          | .47     | 18             |
| 28           | U    | 8000              | Below Incline Lake      | 0           | 0            |         |                |
| 28           | V    | 7300              | Apollo Way              | 0           | 0            |         |                |
| 28           | Z    | 6235              | Third & Incline Creeks  | 0           | 0            |         |                |
| 28           | BS   | 7200              | Brockway Summit         | 0           | 0            |         |                |
| 28           | NS   | 6320              | North Star Fire Dept.   | 0           | 0            |         |                |
| 28           | TRK  | 5900              | Truckee - Tahoe Airport | 0           | 0            |         |                |
| 28           | CK   | 6540              | Cabin Creek             | 0           | 0            |         |                |
| 28           | SV   | 6240              | Squaw Valley Fire Dept. | 0           | 0            |         |                |
| 28           | TC   | 6200              | Thunder Cliff           | 0           | 0            |         |                |
| 28           | TP   | 6240              | Tahoe City              | 0           | 0            |         |                |
| 28           | BF   | 6200              | Bennett Flat            | 0           | 0            |         |                |
| 28           | AC   | 6960              | Alder Creek             | 0           | 0            |         |                |
| 28           | HM   | 5850              | Hobart Mills            | 0           | 0            |         |                |
| 28           | SA   | 6340              | Sagehen Creek           | 0           | 0            |         |                |
| 28           | LT   | 6410              | Hennes Pass Jct.        | 0           | 0            |         |                |
| 28           | FL   | 6200              | Fuller Lake             | 0           | 0            |         |                |
| 28           | JL   | 6000              | Joy Lake                | 0           | 0            |         |                |
|              |      |                   | ( ) Estimated           |             |              |         |                |

# *Surviving a Water Shortage Takes Good Management*

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What can be done to nurture trees, shrubs, lawns and gardens through a water-short year?

First, try to learn all you can about how much water will be available and what regulations might be put into effect.

Absorb all you can about relationships among soil, water and plants — especially your own.

Develop a plan for applying water based on supply, needs, alternatives and current conditions.

Observe and measure how your plan is working.

Those plant, water and soil relationships are crucial to success of your management plan.

Plants differ in how much water they need to survive or prosper — and this varies with climate and changing weather conditions.

Sprinklers and other devices for applying water vary in how fast they can deliver water.

And finally, soils differ in how fast they absorb moisture, how much they store and how long they retain it.

A rule of thumb says 1 inch of moisture will penetrate 12 inches deep in sandy soil; 7 inches in loam, and 4 to 5 inches in clay.

## *ALTERNATIVES*

Save water for plants that can't survive without it.

Reduce watering of other plants to subsistence level. (Lawns can do without water for a long time and green up again when moisture is available.)

Don't plant annuals when water shortage is imminent.

If a vegetable garden is important, many perennials can do without water better than annuals can.

Hold up on new landscaping or consider desert or native plants.

If you were planning to remove any lawn, trees or shrubs in the future; this would be the year to do the work before you start watering.

Change your lawn and garden watering system. Try automatic, drip or different sprinkler heads for better efficiency.

## *APPLY WATER EFFICIENTLY*

Water deep and less often. Shallow, frequent watering encourages shallow roots, more evaporation loss and reduces the moisture reservoir in the soil.

For best results check how long it takes to soak the entire root zone and how long this watering will last.

Don't apply water faster than soil can absorb.

Don't let water run off into street or driveway.

Water early in the day to reduce evaporation loss.

## *CONSERVE MOISTURE*

Mulch around trees and shrubs and between garden rows. This holds in moisture, discourages weeds which compete for moisture.

Aerate your lawn to permit better water penetration.

Set your lawn mower blade to leave 2 or more inches of grass after mowing.

Fertilize adequately. A sick looking lawn or garden many need more fertilizer, not more water. Apply fertilizer before regular watering.

If it rains, reduce watering time accordingly. Measure how much rain has fallen, adjust watering schedule and duration accordingly.



# Stretch Your Irrigation Water

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Soil can absorb irrigation water only at a given rate, which varies for each soil type. Water requirements vary for different crops. Make sure you apply water to your crop only when needed. Check soil moisture by space, probe, or soil moisture meter, and make careful visual checks of your crops.

If you have a conservation plan on your farm, or if the soil in your area has been mapped, the Soil Conservation Service can cross-check soil type and irrigation data and provide you with the water holding capacity of your soil for a given crop.

Don't know if your soil has been mapped? Check with the local SCS office. Even if the soil has not been mapped, the SCS can supply you with general information.

Water stretching measures are important to most farmers in the West. To use your available water in the most productive way possible, here's a checklist to help you analyze your irrigation system.

## **IRRIGATION SYSTEMS**

Inspect your system *before* water starts to flow.

Make sure ditches are clean and free from weeds, sediment, or other debris which can slow water velocity, affect delivery rate and increase evaporation.

Consider lining ditches with concrete or plastic. This could avoid the 10-90 percent loss which often occurs in ditches.

Make sure ditch structures — like headgates, drop structures, and pipe inlets — are strong and functional. A washed-out ditch structure could mean a lot of water lost.

Make sure ditchbanks are firm and not buried into by rodents. Rodent holes could cause leakage or failures.

Make sure your pump is operating at peak efficiency. Adequate maintenance will improve efficiency, guard against water loss, and avoid shutdowns.

## **SPRINKLER SYSTEMS**

Make sure nozzles aren't worn and leaky. Check pipe connections and valves to prevent leaks.

Operate sprinklers at recommended pressure. Use application rate, efficiency factor and time of application to figure how much to apply.

Consider trickle systems for orchards, vineyards, etc. Operate at recommended design values and maintain the filter system.

## **IRRIGATION MANAGEMENT**

Measure the amount of water applied to the field. This can indicate when and how much to irrigate.

Consider alternate row irrigation for crops planted in furrows. But remember to alternate the "alternate" row in later irrigations.

Consider shorter runs if you furrow irrigate. Match stream size and velocity to soil intake rate and capacity.

Consider catching and re-using tail water by pumping it back to the head of the system or re-using elsewhere.

Irrigate most crops when soil moisture reaches about 50 percent of capacity.

# *Range & Pasture Demand Extra Care When Water is Short*

Roots transport moisture and nutrients to growing plants. When plants are overgrazed, root growth stops; when root growth stops, leaf growth stops too.

**IRRIGATED PASTURE** management practices which encourage root and leaf growth are the same practices which allow plants to make the best use of soil moisture. They include:

- Rotation grazing with adequate rest and regrowth periods
- Leaving 4-6 inches of top growth at the end of each grazing period
- Fertilizing properly
- Applying irrigation water in the right amount at the right time

**RANGE AND DRY PASTURE** forage production depends entirely on natural moisture. Overgrazing during a drought does more damage to perennial plants than during a season of normal moisture. It reduces plant vigor, stops root and leaf growth, reduces ground cover, and invites accelerated erosion. Once erosion begins, it tends to get worse each year, further reducing plant vigor and forage production. This process is difficult to reverse.

## ***RATHER THAN RISK PERMANENT DAMAGE TO GRAZING RESOURCES:***

- Reduce livestock numbers to balance with forage supply
- Cull herds more than normal
- Sell calves and lambs early
- Determine forage needs and buy needed supplements early
- Grow small grains or sorghums for hay or pasture (these need less water than conventional forage crops)
- Defer planting perennial pasture, hay, or range seedings until a year with more favorable water outlook
- Keep spring developments, stock tanks, float valves and pipelines in good working order so water is not wasted
- Use evaporation retardants on ponds and tanks
- Prepare for hauling stock water
- Give spring development high priority (even mediocre springs will be helpful)

- Check with local SCS and ASCS offices to learn if regular or emergency cost-share programs are available to help with spring development, water harvesting, storage tanks, or other water conservation practices

- Don't overgraze or otherwise disturb streambank vegetation (it will be needed to prevent erosion, reduce sediment, and provide food and cover for wildlife)
- Remember, if a pasture unit must be abused, well established seedings can tolerate overgrazing better than native range.

**WILDLIFE** will suffer during a drought as much or more than domestic livestock. The wildlife that shares your land is a valuable natural resource. To help wildlife:

- Include additional features at stock water developments which will allow small animals and birds safe access to water (these are usually not expensive and are easily installed)
- Fence ponds and springs and install collector pipes to deliver water to a tank or trough. This will save the water source from damage by livestock trampling, as well as allow access by small animals and birds to lush vegetation that grows close



# Crop & Soil Actions to Stretch a Short Water Supply

The threat of water shortage means that many irrigators will have to make some difficult pre-planting decisions.

The acreage you normally plant and the type of crops planted may need to be adjusted. Some crops use more water than others. Some crops need water later in the growing season when water may no longer be available.

Experiments have proven that fertile soils make more efficient use of irrigation water. If you cut back on acreage, make certain you plant your most fertile acres. Concentrate available water on those acres rather than trying to stretch it over the entire farm.

Knowing soil type is important. It is your guide to rate and frequency of irrigation.

Here's a checklist of things to consider during this year's cropping season.

Know precisely how fast your soil can accept water and its total water-holding capacity. This will allow you to decide how much water to apply at a given time.

Know how much water is being delivered to the field. This will give an indication of how long to irrigate.

Determine the need for irrigation by shovel, auger, moisture meter, or the feel method.

**WHEN IRRIGATION IS NEEDED, SOIL WILL FEEL AND ACT THIS WAY:**

| SOIL TEXTURE  | A HANDFUL OF SOIL WILL:   |
|---------------|---|
| <i>Coarse</i> | <i>Tend to stick together slightly, but will not form a ball.</i> |
| <i>Medium</i> | <i>Be crumbly, but will form a ball.</i>                          |
| <i>Fine</i>   | <i>Be pliable, and will form a ball.</i>                          |

If you plant fewer acres, don't neglect to plant drought tolerant cover crops on unplanted fields to protect from wind erosion.

Consider minimum tillage. Every trip over the field with equipment results in moisture loss. Leave some residue on the surface to reduce moisture loss.

Use chemicals rather than tillage to control water-using weeds.

Alfalfa and some cool-season grasses can survive with minimal water. But, the stand will suffer, particularly if grazed heavily.

Decide whether you will have a little water all season, or more in the spring and none later on. Vary crops accordingly. For instance, alfalfa, cool-season grasses, corn, sugar beets and cotton need water all season, but wheat, barley or rye need water early in the season.

All plants have critical water need times. Make sure you can provide your crops with water during their critical growth stages. Here are some examples of critical water need periods:

| CROP                | CRITICAL WATER NEED   |
|---------------------|---|
| <i>Alfalfa</i>      | <i>Just after cutting for hay; at the start of flowering for seed production.</i> |
| <i>Corn</i>         | <i>Early ear formation; from tasseling to silking stage.</i>                      |
| <i>Potatoes</i>     | <i>Needs high soil moisture levels until potatoes are well-formed.</i>            |
| <i>Small Grains</i> | <i>Boot to heading stage.</i>   |
| <i>Sorghum</i>      | <i>From boot to grain formation.</i>  |
| <i>Soybeans</i>     | <i>Flowering and fruiting stage.</i>  |
| <i>Sugarbeets</i>   | <i>First month after emergence.</i>   |
| <i>Tomatoes</i>     | <i>Flowering to fruiting stage.</i>   |



# The Following Organizations Cooperate With The Soil Conservation Service In Snow Survey Work

## STATE

California Cooperative Snow Surveys  
California Department of Parks and Recreation  
California Department of Water Resources  
Colorado River Commission of Nevada  
Idaho Cooperative Snow Surveys  
Nevada Association of Conservation Districts  
Nevada Department of Conservation & Natural Resources  
    Division of Water Resources  
    Nevada State Forester  
    Division of Conservation Districts  
Oregon Cooperative Snow Surveys  
University of Nevada, Desert Research Institute  
Utah Cooperative Snow Surveys

## FEDERAL

Bureau of Reclamation  
Forest Service  
Geological Survey  
Soil Conservation Service  
U.S. District Court - Federal Water Master  
NOAA, National Weather Service

## PRIVATE

Nevada Irrigation District  
Owyhee Project North Board of Control  
Owyhee Project South Board of Control  
Pacific Gas and Electric Company  
Pershing County Water Conservation District  
Sierra Pacific Power Company  
Truckee - Carson Irrigation District  
Walker River Irrigation District  
Washoe County Water Conservancy District

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